SDMS US EPA REGION V -1

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153326 C.2
9/27/90

Illinois Environmental Protection Agency
Division of Land Pollution Control

RCRA INSPECTION REPORT

USEPA #: IL D098642424	IEPA #: 1631210009
Facility Name: Chemical Waste Management Trade Waste Incineration	Phone #: 618/271-2804
Street Address: #7 Mobile Avenue	County: St. Clair
City: Sauget	State: Illinois Zip: 62201
Region: Southern	Inspection Date: 08-16-1991 From: ~9:30 To: ~3:00
Weather: Sunny, ~85°	

TYPE OF FACILITY

Notified As: 6/TSD Regulated As: 6-1/TS

LDF? (Yes or No) No HPV? Yes 90-Day F/U Required?: YES X NO ____

TYPE OF INSPECTION

CEI: X Sampling: ____ Citizen Complaint: ____ Closed: ____ Other: ____

CME/O&M: ____ Record Review: ____ Follow-Up to Inspection of: ____ Withdrawal: ____

NON-REGULATED STATUS

SQG: ____ Claimed Nonhandler: ____ Other (Specify in Narrative): ____

PART A

Notification Date: 02/28/86, from (initial) or (subsequent) Notification. [subsequent circled]

Initial Part A Date: 11/18/80 Amended: 09/27/90 TCLP

Part A Withdrawal requested: __/__/__ Approved by (US)(IL) EPA: __/__/__

PART B PERMIT APPLICATION

Part B Permit Submitted: (Y) or N 04/15/87 Final Permit Issued: 03/31/88

ENFORCEMENT

Has the firm been referred to -- USEPA (Y) or N __/__/__ 2nd 3rd Last Two Findings During 3/4 Inspection

Illinois Attorney General: Y or N __/__/__ County State's Attorney: Y or (N) __/__/__

ORDERS ISSUED

CACO: 05/16/91 CAFO: __/__/__ Consent Decree: __/__/__

Federal Court Order: __/__/__ State Court Order: __/__/__ IPCB Order: __/__/__

TSD FACILITY ACTIVITY SUMMARY

Activity by Process Code	On Part A?	Activity Conducted Prior to 1980?	Was Activity Ever Done?	Closed	Being done at Time of Insp.?	Exempt per 35 IAC, Sec.	On Annual Report 1988	1989	1990
T03	Yes	Yes	N/A	No	Yes	No	Yes	Yes	Yes
T04	Yes	Yes	N/A	No	Yes	No	Yes	Yes	Yes
S01	Yes	Yes	N/A	No	Yes	No	No	Yes	Yes
S02	Yes	Yes	N/A	No	Yes	No	No	Yes	Yes

RECEIVED
12 SEP 1991
IEPA/DLPC

2353001490

000900

OWNER			OPERATOR		
Name	Chemical Waste Management		Name	Same As Owner	
Address	3003 Butterfield Road		Address		
City	Oak Brook		City		
State	Illinois	Zip 60521	State		Zip
Phone #	705/654-8800		Phone #		

PERSON(S) INTERVIEWED	TITLE	PHONE #
Dennis Warchol	Permitting + Regulatory Affairs Mgr.	618/271-2804

INSPECTION PARTICIPANT(S)	AGENCY/TITLE	PHONE #
Jeff Schoenbacher 8/26,27/91	IEPA/DLPC/EPS	618/346-5120
Mark Schloemer 8/27,28,29/91	IEPA/DAPC/EPS	" " "
Chris Cahnovsky 8/30/91	IEPA/DLPC/EPS	" " "
Marianne Whitney 8/30/91	IEPA/DLPC/EPS	" " "
Mike Grant 8/26-30/91	IEPA/DLPC/EPS	" " "

PREPARED BY	AGENCY/TITLE	PHONE #
Michael D. Grant	IEPA/EPS	618/346-5120

SUMMARY OF APPARENT VIOLATIONS

Previously Alleged

Area	Class	Section
FIN	II	724.171(a)
OTH	I	724.271
LDR	II	728.107(b)(4)
LDR	I	728.150(c)
LDR	I	268.7(a)(4)
OTH	I	724.113(a)
OTH	I	724.131
OTH	I	724.443(c)
OTH	I	724.445(a)
Pt B	I	Section V(a)(J)
Pt B	I	Section IV(J)(1)

Newly Identified

Area	Class	Section
Pt B	I	Section V(a)(C)(1)
Pt B	I	Section V(a)(C)(3)
Pt B	I	" V(b)(E)(3)
Pt B	I	" V(b)(F)

Area	Class	Section

IL 532-1535
LPC - 335 (12/89) Page 2

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607900

1631210009 - St. Clair County
Sauget/TWI
ILD098642424

REMARKS

Trade Waste Incineration in Sauget, Illinois is an incinerator of hazardous, non-hazardous, and hospital waste. The facility received their Part B permit on March 31, 1988. The facility is permitted for storage in containers (S01) and tanks (S02), and treatment via incineration (T03) and other (T04) (i.e., drum decanting and repackaging). There are currently four incinerators at the facility. Units #1, #2 and #3 are fixed hearth incinerators and Unit #4 is a rotary kiln. Only Unit #1 utilizes a wet scrubber system while the other three units are equipped with dry scrubber systems.

Incinerator #1 is permitted to operate with a maximum combined thermal input of waste and fuel at a rate of 14 million Btu/hr. This incinerator utilizes a wet scrubber system. The system includes a prequench venturi scrubber, cyclone separator, induced draft fan, expansion tank/demister and stack. It also includes a water recirculation tank, pumps, pH control equipment, and a blowdown water treatment plant (the water treatment plant is a non-regulated unit). Secondary containment as required in the Part B Permit for the scrubber water tank has been provided.

Incinerator #1 has two specialty feeders connected to it. They are the 4-NDPA residue feeder and the Aerosol Can Processing Unit. The Aerosol Can Processing Unit pierces, evacuates the contents of the cans, and crushes them. The contents are separated, gases from liquids; the gases are sent to Incinerator #1, and the liquids are pumped to a tank to be stored in the tank farm until incineration. The crushed cans are sent to a hazardous waste landfill.

The 4-NDPA residue is a mixture of aromatic amines, aromatic ether, tars, and carbon. The residue is a non-hazardous waste from Monsanto and is burned on a continuous basis to utilize its fuel valve (11,800 Btu/lb). The feed system charges the residue directly from the delivery trailers into the incinerator. The average flow is 19-22 gal/hr. Monsanto provides approximately 600 gallons of this waste per day to TWI.

Incinerators #2 and #3 are of the same type as #1. They are permitted to operate at an input rate of 16 million Btu/hr. Incinerator #3 is currently operating under post trial burn conditions. Both incinerators utilize a dry scrubber system. The system includes a batch lime preparation system, spray dryer absorber, fabric filter, and an ash conveying system. Both incinerators #2 and #3 are computer automated and are operated through the use of a keyboard and terminal.

Unit #4's trial burn was completed in December of 1989. The unit is now operating with the post trial burn conditions set forth in the Part B permit. Unit #4 has a heat release capability of 50 million Btu/hr. Associated with Unit #4 is a bulk storage building which houses four bins. These bins contain contaminated soil which is fed into the kiln via a clamshell bucket operated on a tram.

Changes at the site since the February, 1991 inspection include the completion of construction of Drum Storage Building 3B. Building 3B is identical to 3A and has a capacity of 3360 drums. An as built inspection was conducted on April 26, 1991. Another change is the replacement of the screw conveyor used to feed solids from the bulk bins at Unit #4 to a drag conveyor. Drum Storage Building 2C was modified to add a concrete wall and a metal door. This building is now being used to store Class B and C explosives.

As a result of their operations, the facility generates the following wastes.

Wastewater treatment sludge (D008, D009, D006, D007) and incinerator ash (D008) are generated by Incinerator #1. The wastewater treatment sludge is generated by the wet scrubber system. Incinerators #2, #3 and #4 generate incinerator ash (D008) and dry scrubber solids (D008). The incinerator ash is stored in 20 yd^3 roll-off boxes. During this inspection, all roll-off boxes were properly labeled, dated and covered. The wastewater treatment sludge is added to the ash roll-offs. The dry scrubber solids are collected in a 5000 gallon tanker trailer and 2 cy metal containers. Due to the land disposal restrictions, the ash generated from Incinerators 1, 2, and 3 and the wastewater treatment sludge from #1 is all reburned in #4. These residues are placed in the bulk pits and fed to #4 via a clamshell.

Other waste streams include the following: spent carbon, incinerator refractory, scrap metal and debris. Spent carbon is also reburned in the #4 incinerator. Refractory brick is shipped to CWM in Port Arthur, Texas and scrap metal/debris is shipped to the Adams Center landfill in Indiana.

A review of the facility's documents and records was conducted. Records reviewed included; daily inspection records, training records, incoming and outgoing manifests, daily operating records and the computer data for the incinerator. The main focus of the document review was the manifests and the facility's associated Land Disposal Restrictions (LDR) Program and the computer data. In November of 1990, the computer system for waste tracking (operating record) began. All the paperwork is still being completed, but is also being entered into the computer system. According to Mr. Warchol, revisions to the system are constantly being made as needed to allow for improvements. Mr. Warchol demonstrated this system using selected waste, both by bulk (liquid/dirt) and drums. Since the data is being taken from the daily operating records, key punch error is possible. TWI will further improve this system when bar coding of waste begins.

The facility's LDR Program is very complex, due to the many hazardous waste codes handled by the facility. The facility's waste analysis plan was revised August 3, 1990 to include the third third requirements. One of the requirements prior to acceptance of a load at the facility is that the proper LDR notification and certification is included. Once the load is accepted, it is assigned a receiver number (RN). This RN is used to track the waste throughout the facility. The RN is logged with the associated hazardous waste codes. The RN is also written on the containers. If the waste is received in

bulk (tanker), the RN is logged on the tank log with the gallonage and to what tank it was added. The RNs and associated waste codes are entered into a computer daily. As waste is incinerated, the RN on the solids charges is logged. The tank log documents what RNs are contained in the tanks. All wastes pumped from the tanks to the incinerators are also known. Daily burn logs are used to determine what wastes (RNs) will be burned.

Through these records, the waste codes burned are tracked with the associated wastes generated from the incinerator (ash, dry scrubber solids, wastewater treatment sludge). To insure that all waste codes (via RNs) associated with the generated residues, the facility carries over the waste codes for all solids charges for 24 hours, and waste codes for liquids in tanks are carried for 30 days. The waste codes from the bulk pits are carried for 10 days. After an ash dumpster is generated at Unit #4, the associated receiver numbers (including those which are carried over) are typed into the computer. The computer will then print out a list of all hazardous waste codes. The appropriate treatment standards are also produced. In cases where the same constituent exists for different waste codes, the computer prints out the lowest treatment standard. This data is then sent to the lab with the samples. As a result, the lab is able to analyze for all the appropriate treatment standards. Once the analysis is complete and the ash meets all the appropriate treatment standards, the LDR certifications and notifications are prepared and the waste is shipped to a CWM facility for disposal.

During the February, 1991 inspection TWI was stabilizing their ash on-site to meet certain treatment standards which are not obtained through incineration. The dry scrubber solids (a lime slurry) from Units 2, 3, and 4 and ferric sulfate were used to stabilize the ash. The activity began after the effective date of the third third regulations (8/8/90). Stabilization took place in a building which was not totally closed.

Pursuant to 268.7(a)(4), generators who treat (stabilize) their waste in tanks or containers to meet the treatment standard are to submit a waste analysis plan to the Agency. This plan was to be submitted 30 days prior to commencement of the treatment activity. The previously mentioned waste analysis plan submitted by TWI for the third third regulations did not address stabilization. As a result, an apparent violation of 268.7(a)(4) was alleged.

Since Illinois had not adopted the Third Third regulations, this apparent violation was referred to USEPA for enforcement. On May 16, 1991, the USEPA issued a Complaint and Compliance Order for this situation. On June 4, 1991, TWI submitted a Waste Analysis Plan to address stabilization. The facility ceased on-site stabilization on March 7, 1991. The ash and dry scrubber solids are shipped to the CID landfill in Chicago. CID is currently stabilizing TWI's ash to meet the applicable treatment standards prior to disposal in their landfill. The apparent violation of 268.7(a)(4) will remain outstanding until settlement is reached between the USEPA and TWI.

Another apparent land disposal restrictions violation alleged as a result of the February, 1991 inspection dealt with the storage of F-Solvent waste greater than one year. Fifty drums of F005 generated by Merick & Company were being stored at TWI since August of 1989. Pursuant to 728.150(c), if restricted wastes are stored greater than one year, then the facility must demonstrate that such storage was solely for the purpose of accumulation of such quantities necessary to facilitate proper recovery, treatment, or disposal. This demonstration was not made. During this inspection, Mr. Warchol provided me with the records to demonstrate that all drums of this waste were incinerated. These drums were decanted to Tank #4 in the North Tank Farm. This operation began July 25, 1991. This waste was burned July 26, 1991. After the drums, which were 55 gallon drums inside 85 gallon overpacks were emptied, the contents of both drums were filled with dry-all. This procedure was used because of the irritating odor produced by carbon disulfide. The drums were then shipped off-site to the CWM facility in Emelle, Alabama. The apparent violation of 728.150(c) remains unresolved.

TWI has provided the Agency with a computer and a telecommunications program, as required in the February 16, 1990 Consent Order between TWI, the IAGO and IEPA-DAPC. This program provides the Agency with minute by minute current operating parameters for Units #2, #3 and #4, as well as historical data on these units. During the August, 1990 inspection, permit conditions were correlated to the operating parameters of the incinerator. TWI filed an application for a permit modification to change the operating temperature in the kiln from 1600°F to 1300°F. In an August 10, 1990 letter from the Agency, this application was denied. It was determined the incinerator was operating below 1600°F. Also the inspection records labelled Process Unit Inspection Report list the permit limits for the kiln temperature as <1300°F. The facility requested the modification because the thermocouple for the kiln temperature is not located at the kiln, but at the transition chamber. They maintain an adjustment factor should be used on the temperature measured in the transition chamber. As a result, a violation of Section 724.445(a), which requires that the incinerator be operated in accordance with the conditions set forth in the Part B permit, was alleged. Specifically, Section VI(b)(D)(2)(1) of the permit was alleged. TWI has begun operating the unit with the waste feed cut-off set at 1500°, as required in the Permit. On February 27, 1991, TWI received temporary authorization to operate the kiln at 1444° F. This temporary authorization was extended on August 23, 1991 for an additional 180 days. If TWI has not conducted a trial burn by the end of this extention, the primary chamber temperature will revert back to the original temperature. The apparent violation of 724.445(a) will remain outstanding.

Since Units #3 and #4 are in Post Trial Burn conditions and the data maintained on Unit #1 is not, Mark Schlueter (Division of Air Pollution Control) and myself focussed on reviewing the computer data for Unit #2. The focus of our review was to determine if there were any permit (both their Part B and their Air Pollution Permit) exceedances or discrepancies.

The first parameter viewed was Carbon Monoxide (CO). The operating condition for CO rolling average is different between the Part B permit and the Div. of Air Pollution Control (DAPC) permit. The Part B permit operating condition is CO concentrations shall not exceed 50 ppm for more than 3 minutes. However, the DAPC operating permit, which was issued May 2, 1988, requires that CO shall not exceed 50 ppm for 60 minute rolling average. TWI submitted a letter to the DLPC Permit Section on May 6, 1988 clarifying this condition and stating that they would use the 50 ppm CO for a sixty minute rolling average which is consistent with the DAPC permit. However, the Part B permit was not modified to reflect this condition. Through review of the computer data, it was determined that CO readings in excess of 500 ppm (referred to as spikes) longer than 6 minutes have occurred. A 500 ppm 6 minute spike would total 3000 ppm. A 50 ppm rolling average for 60 minutes also totals 3000 ppm. After totalling these excursions, we would check the data to determine if the waste feeds were shut down for the remainder of that 60 minutes.

The waste feeds would shut down during the spike, but would at some point, minutes later, begin feeding again. Mr. Warchol explained that when the 50 ppm rolling average shutdown occurs, the waste feeds remain shut down until the CO limit drops below 50 ppm. The waste feeds are set to begin feeding at 40 ppm, which is the number TWI selected. At that point, the 60 minute rolling average would start over.

TWI has not complied with the 50 ppm average for the 3 minutes permit limit listed in the Part B permit. As stated in their May 2, 1988 letter to the Agency, they elected to use the 50 ppm 60 minute average as their CO limit. Based upon our review, TWI is in apparent violation of this permit condition also. As a result, an apparent violation of Section V.b.E.3. will be alleged.

Another apparent violation of the operating permit parameters for Unit #2 was also discovered. The instantaneous automatic waste feed cutoff limit for Hydrogen Chloride (HCL) in the Part B permit is 100 ppm. The DAPC permit instantaneous limit is 500 ppm and 100 ppm rolling average. Through our data review, the instantaneous waste feed cutoff limit is set at 500 ppm. Verification was obtained that waste feeds continued after the HCL limit was in excess of 100 ppm.

On August 28, 1991 at 12:20 p.m., Mark Schlueter and I observed the exhaust from the Unit #1 stack turn from the usual white steam plume to greyish black in color. This upset lasted approximately 2 minutes. We then went with Mr. Warchol to Unit #1 to determine the cause. The operator had recorded that a high CO shutdown (>500 ppm) occurred at 12:20 p.m. The operator stated that he bumped the feed ram into the incinerator approximately 2 seconds. The purpose of this was to move the solid charges down farther on the hearth of the incinerator. When this was done, a CO shutdown occurred. The solid charges being fed at this time were from Receiver #1-9165. As we were standing at the incinerator control board, a call was made to have the charges of this receiver number broken down by a half. The operator was charging two charge boxes at a time, with each weighing approximately twenty pounds. We then went back into the office to call up receiver #1-9165 on the computer. Receiver #1-9165 was N-Decycl Methyacrylates from DuPont Chemical and was classified as a D001 - ignitable waste.

As a result, the following apparent violations of the Part B permit will be alleged: Section V.(a)(C)(1) - (failure to meet the 99.99 DRE) and Section V.(a)(C)(3) - (failure to keep particulate matter less than 0.08 grains per dry standard cubic feet).

The following previously alleged violations also remain unresolved. During the February, 1991 inspection, Manifest #IL3135920, used for a shipment of waste into TWI did not contain the date received by TWI. Pursuant to 724.171(a)(1), the owner/operator shall sign and date each manifest accompaying the waste received. During this inspection, Manifest #IL4388464, which was a load received July 23, 1991 from the Kansas Department of Health and Environment, was found to be unsigned by TWI. This was pointed out to Mr. Warchol and on August 28, 1991, a letter was sent to the generator to rectify this situation. As a result, no further action will be taken on this manifest discrepancy.

During the February, 1991 review of outgoing manifests (ash) and the required LDR certifications, approximately 20 certifications/notifications were found not to include the associated manifest numbers. Pursuant to 728.107(b)(4)(C), the notifications must include the manifest number associated with the shipment of the waste. It should be noted that during this inspection, all outgoing manifests and LDR certifications were properly completed.

Also, there are apparent violations which remain outstanding from the vapor release which occurred on January 17, 1990 as a result of incompatible wastes being blended together in tank #4. The apparent violations alleged were 724.113(a), 724.131 and Section IV (J)(1) of the Part B permit.

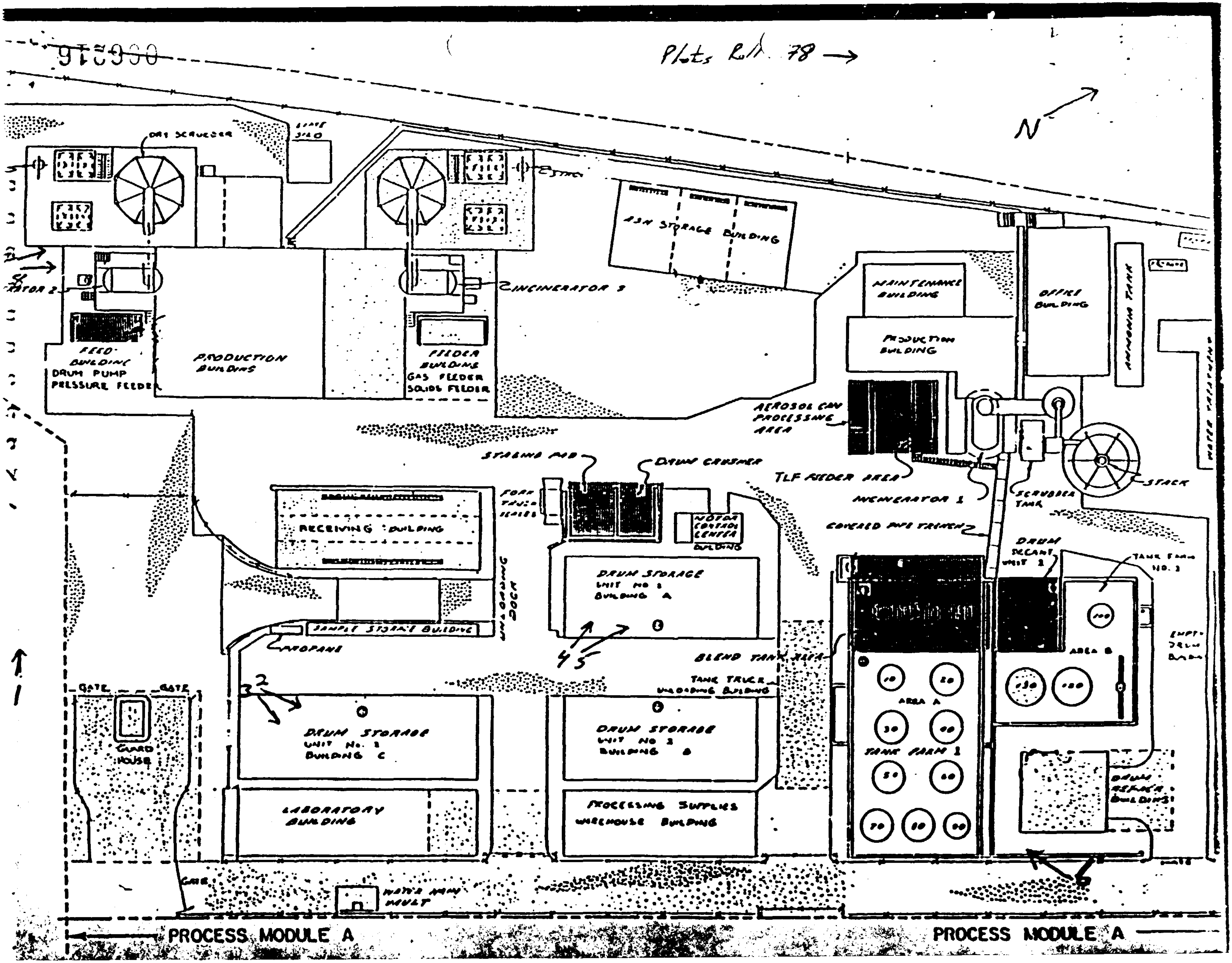
Apparent violations were alleged as a result of the February 13, 1991 complaint investigation of the February 5, 1991 steam explosion at Incinerator #1. The explosion occurred when a large piece of molten ash fell into the waterfilled ash pit producing a large amount of pressurized steam. Those apparent violations are: Section V.a. J. of the Part B permit for not notifying the Agency within 24 hours of the incident, and 724.443(c) because at the time of the explosion, the particulate emission performance standard was not met.

An investigation on April 9, 1991 of the January 25, 1991 ash roll-off container explosion also resulted in an apparent violation of Section 724.131 being alleged.

As a result, the following apparent violations identified during previous inspections remain unresolved: 724.171(a), 724.271, 728.107(b)(4), 728.150(c), 268.7(a)(4), 724.113(a), 724.131, 724.443(c), 724.445(a), Section V.(a)(J) and Section IV.(J)(1).

The following apparent violations were identified during this inspection: V.(a)(C)(1), V.(a)(C)(3), V.(b)(E)(3) and V.(b)(F).

MDG:cas/0618L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LIME SILO
STACK
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DRUM PUMP
PRESSURE FEEDER
PRODUCTION BUILDING
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GAS FEEDER
SOLIDS FEEDER
MAINTENANCE BUILDING
OFFICE BUILDING
AMMONIA TANK
PRODUCTION BUILDING
AEROSOL CAN PROCESSING AREA
STAGING PAD
DRUM CRUSHER
TLF FEEDER AREA
INCINERATOR 1
SCRUBBER TANK
STACK
FORK TRUCK
RECEIVING BUILDING
UNLOADING DOCK
MOTOR CONTROL CENTER BUILDING
CONCEALED PIPE TRENCH
DRUM DECANT UNIT 1
TANK FARM NO. 2
DRUM STORAGE
UNIT NO 1
BUILDING A
SAMPLE STORAGE BUILDING
PROPANE
BLEND TANK AREA
TANK TRUCK UNLOADING BUILDING
AREA A
AREA B
TANK FARM 1
EMPTY DRUM
GATE
GATE
GUARD HOUSE
DRUM STORAGE
UNIT NO. 1
BUILDING C
DRUM STORAGE
UNIT NO 2
BUILDING B
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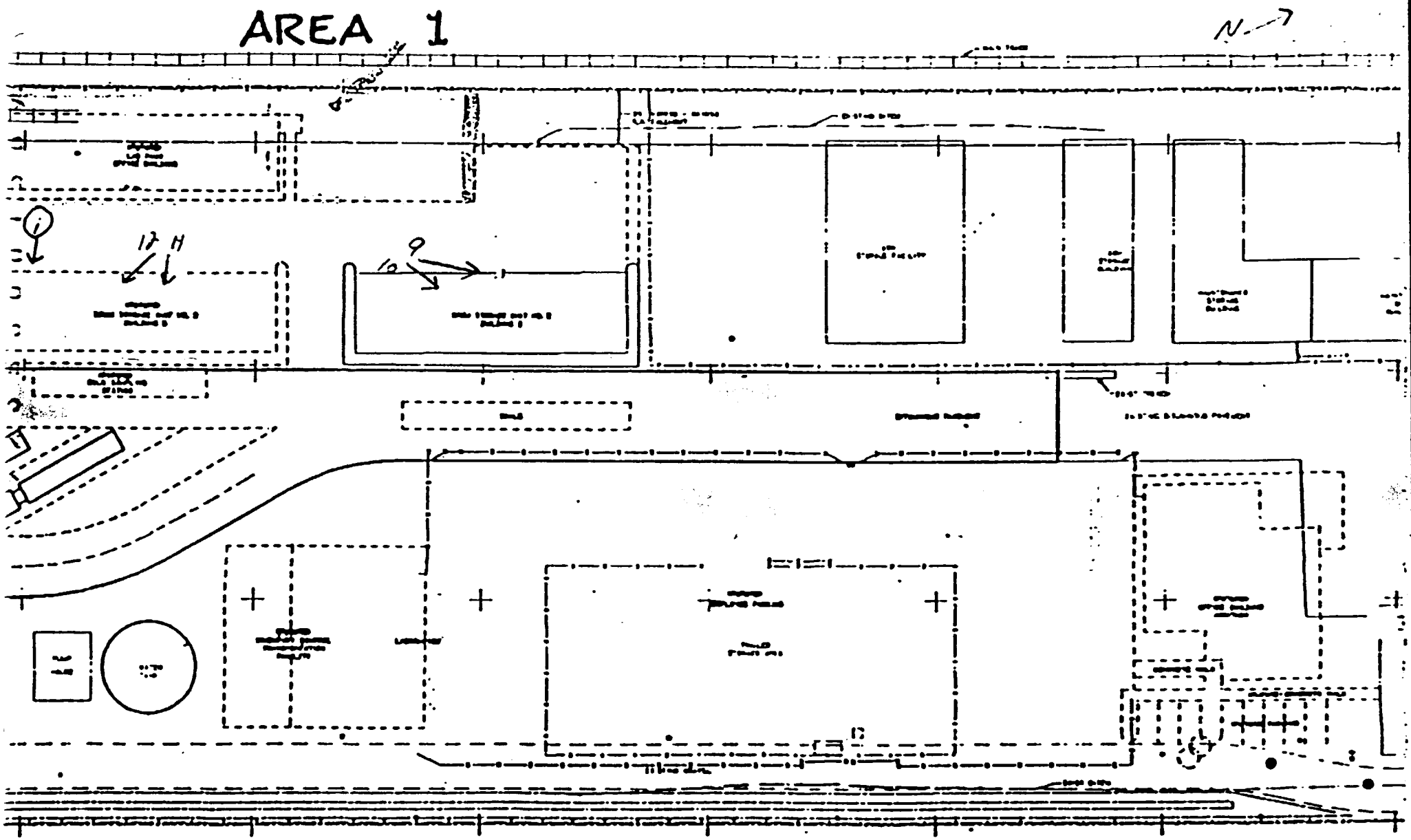
PROCESS MODULE A
PROCESS MODULE A

AREA 1



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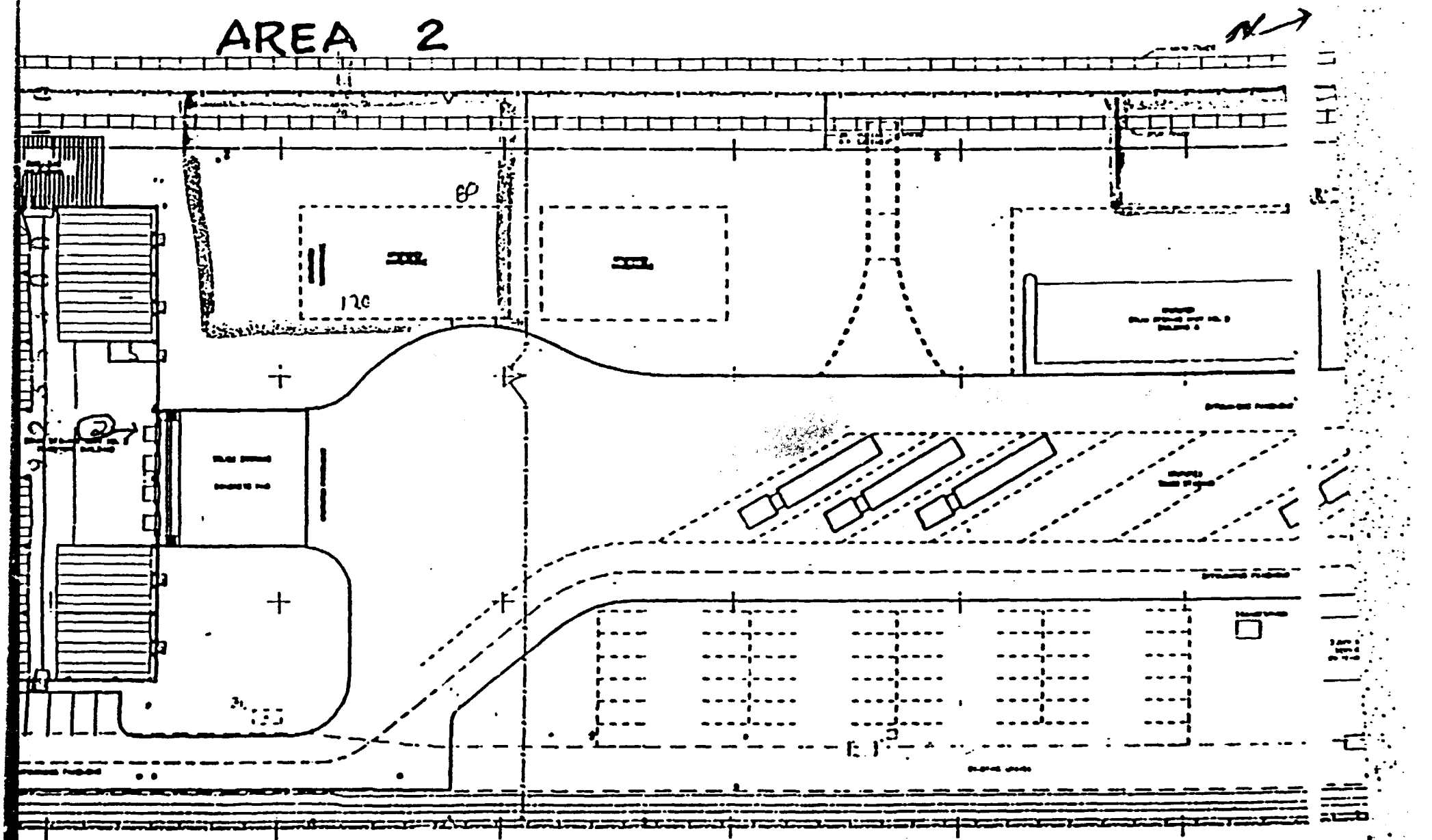

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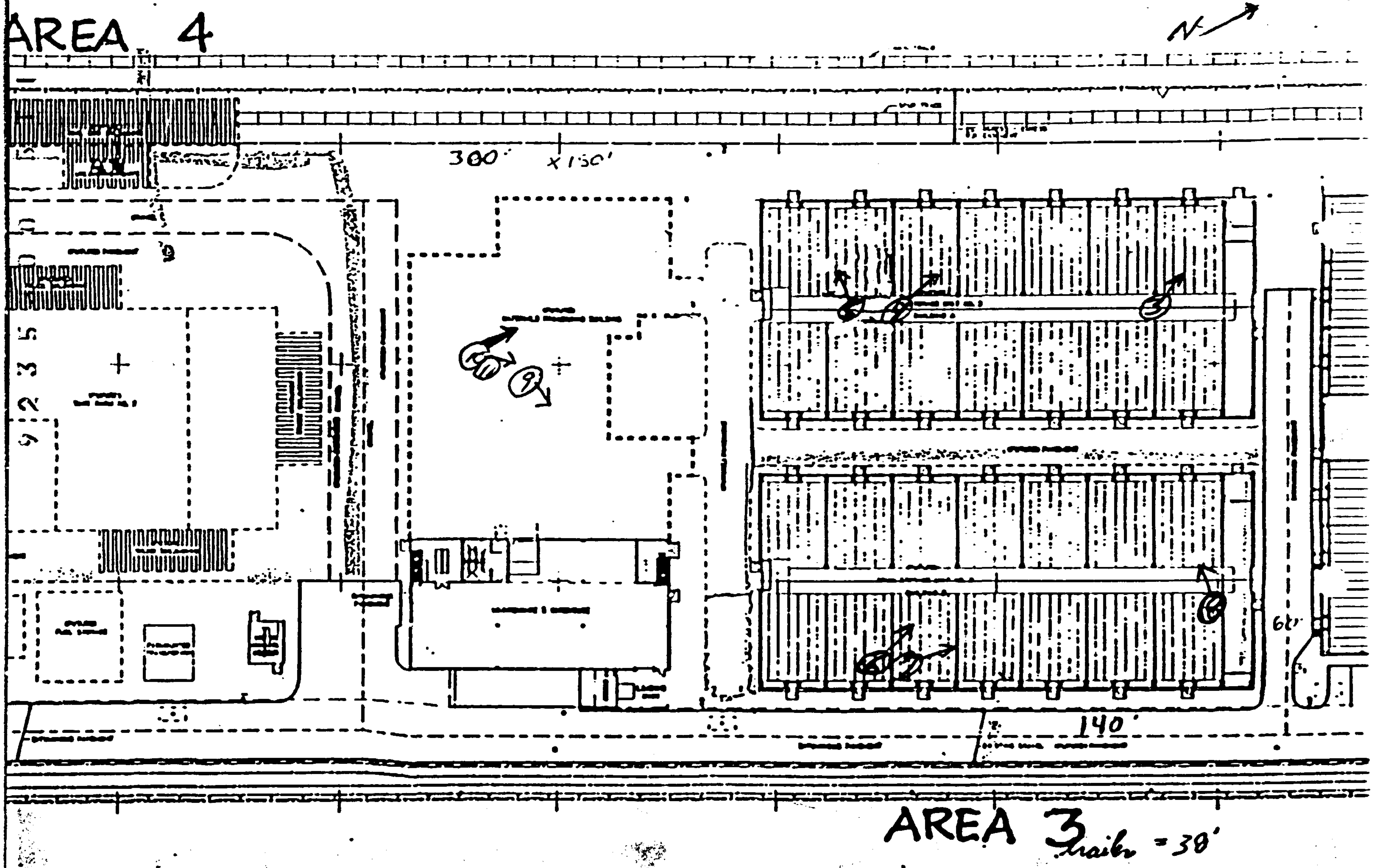

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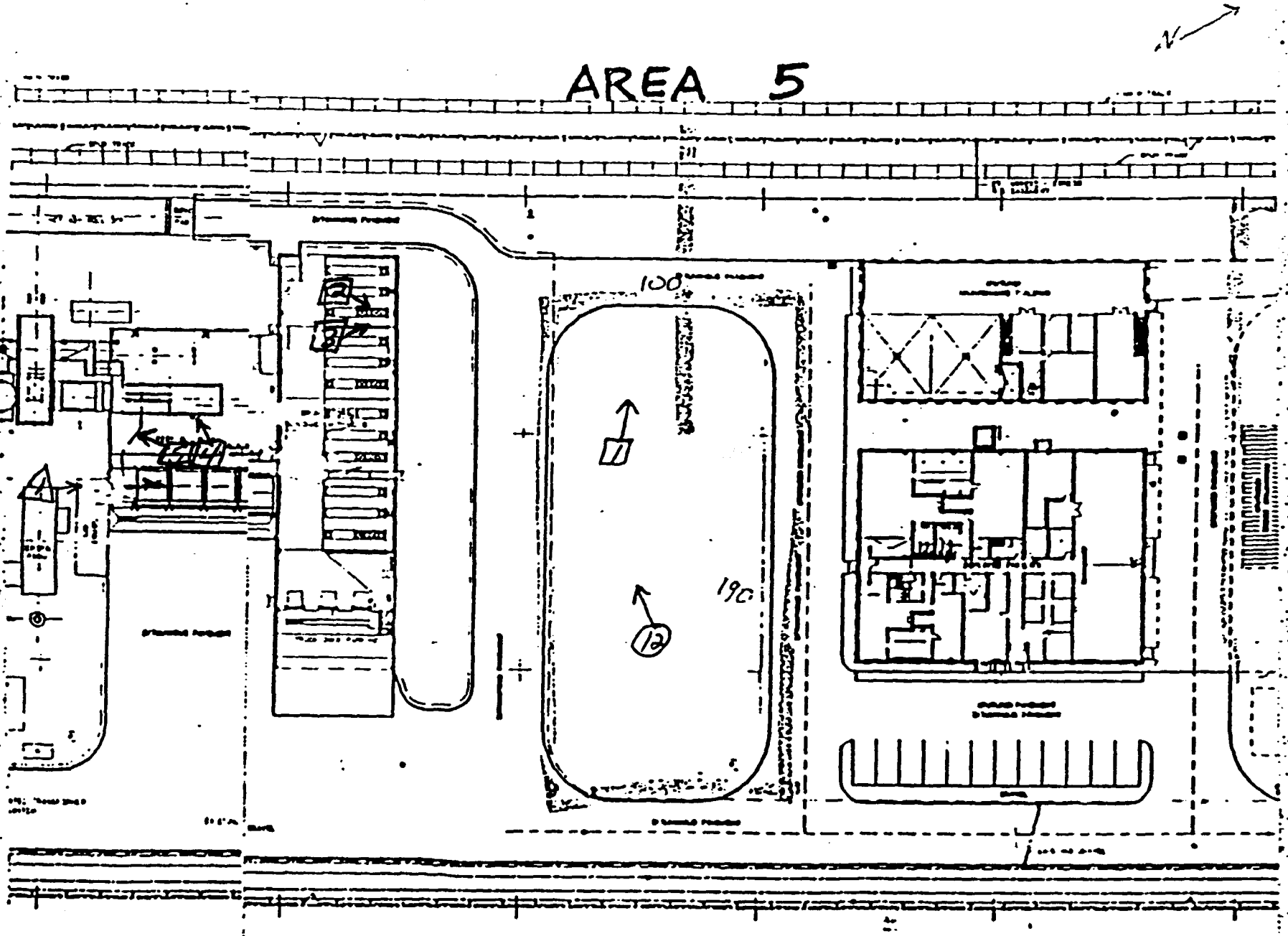
AREA 5



O → Roll 1679
E → Roll 1680